wherein for [general] formula A: [wherein] R<sub>1</sub> is mono or dihalogenated acyl group, aroyl group selected from the formulae of Tables 1 and 2 [(Table 1)], alkyloxy-carbonyl group or aryloxy-carbonyl group selected from the formulae of Table 2 [(Table 2)]; [and] R<sub>3</sub> is hydrogen or halogenated group selected form the formulae of Tables 1 and 2; [and] R<sub>2</sub> is hydrogen or acetyl groups; [wherein] R<sub>4</sub> is PhCO or Me<sub>3</sub>COCO or [CH<sub>3</sub>CH=C(CH<sub>3</sub>CH=(CH<sub>3</sub>)CO] CH<sub>3</sub>CH=C(CH<sub>3</sub>)CO. [R<sub>3</sub> is a halogenated group (Tables 1 and 2)];

for [general] formula B: [wherein]  $R_1$  is mono or dihalogenated acyl group or aroyl group selected from the formulae of Table 1, [(Table 1)], alkyloxy-carbonyl group or aryloxy-carbonyl group selected from the formulae of Table 2 [(Table 2)]; [and]  $R_2$  is hydrogen or acetyl group [and];  $R_5$  is selected from the formulae of Table 3 [any group from Table 3] [,];  $R_6$  is H or Me;

and wherein groups of Tables 1, 2 and 3 are selected from:

Table 1 Structures of Halogenated Acyl and Aroyl Groups

Group 1	X X O	Group 9	X JL př	Group 17	X
Group 2	X O X	Group 10	X		X
Group 3	X	Group 11	**************************************	Group 18	x x
Group 4	X	Group 12	X		ОН
Group 5	X	Group13	X	Group 19	X
Group 6	X * † Jrrr		X O	Group 20	
Group 7	X O X	Group15	C J J.r.		X
Group 8	X O Ph * X	Group 16	X	Group 21	X NH Vr

•				
Group 22 X	Group 29	X X	Group 35	X
Group 23	Group 30	X	Group 36	X <sub>1</sub>
Group 24	Group 31	0	·	X <sub>2</sub>
Group 25 X	Group 31	x x	Group 37	X J
Group 26 X	Group 32	X O	Group 38	X N N N N N N N N N N N N N N N N N N N
Grou 27 X	Group 33	X N J	Group 39	N J
Group 28 X O	Group 34	X	Group 40	X O

- halogen (F or Cl or Br or I) one type of halogen other type of halogen
- X: X:
- X:

				1	
į					Group 55 X OMe
Group	42	X · * O H	Group 49	X	Group 56 X OMe
2					Group 57 X
Group	44	X X O Y	Group 51	XXXX	Group 58 X—S
Group	45	X N N N N N N N N N N N N N N N N N N N	Group 52	X OH O Y'i	Group 59 X—N O
Group	46	X JOHA	Group 53	HO O S	Group 60
Group	47	X~~O_H^zzt	Group 54	$X_2$ $X_2$ $X_1$ $X_2$ $X_1$	Group 61

X:

halogen (F or Cl or Br or I) one type of halogen other type of halogen  $X_i$ : X<sub>2</sub>:

Table 2 (Contd)

Group 62	$X_2$ $R$ $O$ $A$	Group 68	X <sub>2</sub> O X <sub>1</sub>	Group 74	x s hr
Group 63	$X_2$ $X_1$ $X_1$	Group69	X OH O Tr	Group 75	X O O
Group 64	X $X$ $X$ $X$ $X$ $X$ $X$ $X$ $X$ $X$	Group70	x~~o~~	Group 76	X X S Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z
Group 65	$\begin{array}{cccc} & & & & \\ & & & & \\ & & & & \\ & & & & $	Group71	$X_2$ $X_1$ $X_1$ $X_1$	Group77	N N N N N N N N N N N N N N N N N N N
Group 66	× \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Group72	N NH NH NH NH	Group78	× ×
Group67	$X_1$ $X_1$ $X_1$ $X_1$ $X_1$	Group73	X NH	Group79	X N O J'

halogen (F or Cl or Br or I) one type of halogen other type of halogen X: X<sub>1</sub>: X<sub>2</sub>:

Table 2 (Contd)

Group 80	x of pr	Group 86	× Olyt	Group 91	
Group 81	X	l	X O L	4	<b>A</b>
Froup 82	X O X	Group 88	X O Y Y Y	Group 93	X O O O
Group 83	X O J	Group 89	R O O O O O O O O O O O O O O O O O O O	Group 94	X O L
Group 84	x Colyr	Group 90	X	Group 95	n v o × × × × × × × × × × × × × × × × × ×
Group 85	X O O O O O O O O O O O O O O O O O O O			Group 75	N N O N S N J S N

Table 3 Group Structures of Amino Acids and Their Codes Used in This Patent

# TYPE I

wherein  $R_1$  is a group selected form the formulae of Table 1, groups 1 to 40 [(groups 1 to 40)]; and  $R_2$  is H or Ac [;].

# 3. (once amended) A compound of claim 1 of the formula:

# TYPE II

wherein  $R_1$  is a group selected from the formulae of Table 2, groups 41 to 95 [(groups 41 to 95)];  $R_2$  is H or Ac [;].

# TYPE III

wherein R<sub>3</sub> is a group selected from the formulae of Table 1, groups 1 to 40 [(groups 1 to 40)]; and R<sub>2</sub> is H or Ac, and R<sub>4</sub> is PhCO or Me<sub>3</sub>COCO or CH<sub>3</sub>CH=C(CH<sub>3</sub>)CO [;].

5. (once amended) A compound of claim 1 of the formula:

### **TYPE IV**

wherein R<sub>3</sub> is a group selected from the formulae of Table 2, groups 41 to 95 [(groups 41 to 95)], R<sub>2</sub> is Ac or H, and R<sub>4</sub> is PhCO or Me<sub>3</sub>COCO or CH<sub>3</sub>CH=C(CH<sub>3</sub>)CO [;].

### **TYPE V**

wherein  $R_1$  is a group selected from the formulae of Table 1, groups 1 to 40 [(groups 1 to 40)];  $R_2$  is H or Ac; and

R<sub>3</sub> is a group selected from the formulae of Table 2, groups 41 to 95 [(groups 41 to 95)] [;].

7. (once amended) A compound of claim 1 of the formula:

### TYPE VI

wherein  $R_1$  is a group selected from the formulae of Table 2, groups 41 to 95 [(groups 41 to 95)]:  $R_2$  is H or Ac; and

R<sub>3</sub> is a group selected from the formulae of Table 1, groups 1 to 40 [(groups 1 to 40)] [;]

### TYPE VII

wherein  $R_1$  is a group selected from the formulae of Table 1, groups 1 to 40 [(groups 1 to 40)];

R<sub>2</sub> is H or Ac; and

R<sub>3</sub> is a group selected from the formulae of Table 1, groups 1 to 40 [(groups 1 to 40)] [;].

9. (once amended) A compound of claim 1 of the formula:

#### TYPE VIII

wherein  $R_1$  is a group selected from the formulae of Table 2, groups 41 to 95 [(groups 41 to 95)];

R<sub>2</sub> is H or Ac; and

R<sub>3</sub> is a group selected from the formulae of Table 2, groups 41 to 95 [(groups 41 to 95)]

[;]<u>.</u>

10. (once amended)

A compound of claim 1 of the formula:

#### TYPE IX

wherein  $R_1$  is a group selected from the formulae of Table 1, groups 1 to 40 [(groups 1 to 40)];

R<sub>2</sub> is H or Ac;

 $R_5$  is H or is selected from the formulae of Table 3 [or Me or  $G_1$  or  $G_2$  or  $G_3$  or  $G_4$  or  $G_5$  or  $G_6$  or  $G_7$  or  $G_8$  or  $G_9$  or  $G_{10}$  or  $G_{11}$  or  $G_{12}$  or  $G_{13}$ ];

R<sub>6</sub> is H and [only in the case] when R<sub>5</sub> is G<sub>10</sub> from Table 3, R<sub>6</sub> is H or Me [;].

11. (once amended) A compound of claim 1 of the formula:

# TYPE X

$$R_1$$
 $R_6$ 
 $R_5$ 
 $R_5$ 
 $R_6$ 
 $R_6$ 
 $R_7$ 
 $R_8$ 
 $R_8$ 
 $R_8$ 
 $R_8$ 
 $R_9$ 
 $R_9$ 

wherein  $R_1$  is a group selected from the formulae of Table 2 groups 55 to 95 [(groups 55 to 95)];  $R_2$  is H or Ac;

 $R_5$  is H or <u>is</u> selected from <u>the formulae of Table 3</u> [or Me or  $G_1$  or  $G_2$  or  $G_3$  or  $G_4$  or  $G_5$  or  $G_6$  or  $G_7$  or  $G_8$  or  $G_9$  or  $G_{10}$  or  $G_{11}$  or  $G_{12}$  or  $G_{13}$ ];

 $R_6$  is H and [only in the case] when  $R_5$  is  $G_{10}$  from the Table 3 [the group]  $R_6$  is H or Me [;].

Kindly add the following new claims:

- 34. A method for the production of a compound of claim 2 comprising reacting N-deacylated cephalomannine or paclitaxel with halogenated or dihalogenated acyl halogenides selected from the formulae of table 1, groups 1-40, of claim 1.
- 35. The method of claim 34 wherein the reaction is carried out in the presence of aminobases at temperatures effective to make any amount of said compound.
- 36. A method for the production of a compound of claim 3 comprising a reaction selected from,
- (a) N-deacylated cephalomannine or paclitaxel, halogenated phenols selected from the formulae of table 2, groups 41-95, of claim 1 and triphosgene, and
- (b) N-deacylated cephalomannine or paclitaxel and halogenated formates having formulae selected from groups in table 2, groups 41-95, of claim 1.
- 37. The method of claim 36 where the reaction of part (a) is carried out with a non-separated and non purified product of N-decylated cephalomannine or paclitaxel and halogenated phenols with triposgene under an inert atmosphere at temperatures effective to make any amount of said compound.
- 38. A method for the production of a compound of claim 4 comprising reacting paclitaxel, cephalomannine or Taxotere ® with halogenated or dihalogenated acyl halogenides selected from the formulae of table 1, groups 1-40, of claim 1.
- 39. The method of claim 38 wherein the reaction is conducted in the presence of aminobases under temperatures effective to produce any amount of said compound.
  - 40. A method for the production of a compound of claim 5 comprising,
- (a) reacting paclitaxel, cephalomannine or taxotere® with halogenated alkyl or aryl fomate selected from the formulae of table 2, groups 41 to 95, of claim 1, or
- (b) reacting paclitaxel, cephalomannine or Taxotere® with the product of the reaction between halogenated phenols selected from the formulae of table 2, groups 41to 95, of claim 1 and triphosgene.
- 41. The method of claim 4 wherein the reaction of part (b) is carried out with a non-separated and non-purified product obtained from said halogenated phenols and triphosgene under an inert atmosphere at temperatures effective to make any amount of said compound.

- 42. A method for the production of a compound of claim 6 comprising
  - (a) reacting compounds of type 1

#### TYPE I

with halogenated alkyl or aryl formate selected from the formulae of table 2, groups 41 to 95, of claim 1, or

- (b) reacting compounds of said type 1 with products obtained between halogenated phenols selected from the formulae of table 2, groups 41 to 95, of claim 1, and triphosgene, at temperatures effective to make any amount of said compound.
  - 43. A method for the production of a compound of claim 7 comprising reacting compounds of type II

### TYPE II

with halogenated or dihalogenated acyl halogenides selected from the formulae of table 1, groups 1 to 40, of claim 1, in the presence of aminobases at temperatures effective to make any amount of said compounds.

44. A method for the production of a compound of claim 8 comprising reacting a compound of type I

### TYPE I

with halogenated or dihalogenated acyl halogenides selected from the formulae of table 1, groups 1 to 40, of claim 1 in the presence of aminobases at temperatures effective to make any amount of said compound.

- 45. A method for the production of a compound of claim 9 comprising
  - (a) reacting compounds of type II

#### TYPE II

with halogenated alkyl or aryl formate selected from the formulae of table 2, groups 41 to 95, of claim 1, or

- (b) reacting compounds of said type II with the products of the reaction between halogenated phenols selected from the formulae of table 2, groups 41 to 95, of claim 1.
- 46. The method of claim 45 part (b) wherein the reaction is carried out under an inert atmosphere and at temperatures effective to make any amount of said compound.
  - A method for the production of a compound of claim 10 comprising

(a) reacting N-substituted acyl halogenides selected from the formulae of table 1, groups 1 to 40, of claim 1,  $\alpha$ -amino acids when the group RCH(NH<sub>2</sub>)COOH where R is selected from the formulae of table 3, claim 1, with

**BACCATIN III** 

AC O OH OH HOAC

or

10-DEACETYL BACCATIN III

in the presence of aminobases at a temperature effective to make any amount of said compound; or

- (b) reacting halogenated or dihalogenated acyl halogenides selected from the formulae of table 1, groups 1-40, of claim 1 with esterified said  $\alpha$ -aminoacids selected from the formulae of table 3, claim 1, or with baccatin III or 10-deacetyl-baccatin III.
  - 48. A method for the production of a compound of claim 11 comprising
- (a) reacting N-substituted halogenides selected from the formulae of table 2, groups 41 to 95, of claim 1 with  $\alpha$ -amino acids, (when the group RCH(NH<sub>2</sub>)C00H, where R is selected from the formulae of Table 3) claim lywith,

#### **BACCATIN III**

### 10-DEACETYL BACCATIN III

in the presence of aminobases at temperatures effective to make any amount of said compound, or

(b) reacting halogenated phenols selected from the formulae of table 2, groups 41-95, of claim1 and esterified said  $\alpha$ -amino acids selected form the formulae of table 3, claim 1, with baccatin III or 10-deacetyl-baccatin III.